PLAN SUBMITTAL REQUIREMENTS FOR DRAINAGE CLEARANCE REVIEW

FOR:

SINGLE FAMILY RESIDENCE
DRAINAGE CLEARANCE PLAN
MASTER PLAN
PRELIMINARY PLAT
CONCEPT PLAN
PRECISE PLAN
SPECIAL USE
REVIEW FEES

501 North 44th Street, Suite 200 - Phoenix AZ 85008 ▪ (602) 506-3301 ▪ (602) 506-3601 fax
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Planning and Development Department

LIST OF TOP 10 QUESTIONS ASKED REGARDING PLAN SUBMITTALS
- Drainage Requirements -

1. **What needs to be shown on the plans?**
   Review the attached requirements for specific project.

2. **Where do I obtain a Building Permit or submit my plans?**
   Building Permits and Plans submittals are to be taken downtown to 411 North Central Avenue, 3rd Floor, Suite 300. For questions regarding Permit submittals, call (602) 506-3201. Applications and information regarding the submittal of permits can be obtained from the County's web site at www.maricopa.gov/planning, or Fax on Demand line at (602) 506-0800.

3. **When do I call for a stem inspection?**
   Prior to pouring the stem walls. Have the contractor set up the height of the stem walls for our inspector's site visit. Call our inspection line at (602) 278-0871. Inspections for the next day need to be called in prior to 2:30 p.m. (This is an automated system).

4. **When do I call for a final inspection?**
   After everything has been completed, all the concrete has been poured, all trenches have been filled, stockpiles/berms removed and the site has been rough graded.

5. **Do I need a site inspection?**
   Whether a site inspection is needed or not depends on the location of the site and if the Planning & Development Department already has drainage information for the site. The Drainage Plan Reviewer downtown will determine if a site inspection is needed at the time of the plan submittal.

6. **Am I in a floodplain?**
   Check the Federal Emergency Management Agency's Flood Insurance Maps or if the property is located in the Unincorporated Areas of Maricopa County you can call the Flood Control District's Floodplain Division at (602) 506-2939 and ask for floodplain determination. Prior to calling make sure you have the assessor parcel number.

7. **What will the fees be?**
   Fees will be determined by the Drainage Plan Reviewer at the time of submittal.

8. **Do I need an engineer to prepare my plans?**
   An Arizona Registered Engineer is needed if there is extensive grading, a wash is to be rerouted or encroached upon, the proposed house is adjacent to a significant wash, or if the finished floor is to be set lower than the allowed finished floor criteria (see requirements for finished floors and grading on-site on the following page).

9. **How far away from the wash does my house need to be?**
   The location of the structure in proximity to a wash is dependent on the size of the wash, the amount of flow the wash carries, and if any bank stabilization is required. The Drainage Reviewer will determine if a location is acceptable during the plan review. In general, stay away from all major washes. A good rule for proposed structures within twenty feet would be to provide bank protection and set the footers below the bottom elevation of the wash. For larger washes, a civil engineer will need to determine appropriate erosion control. Erosion control may need to meet Arizona State Standard 5-96.

REQUIREMENTS FOR FINISHED FLOORS AND GRADING ON SITE

Finished Floor Elevation:

Finished floors shall be elevated a minimum of one foot above the high point of the building site, unless site specific conditions warrant different requirements. In some hillside locations or alluvial flooding areas, the finished floor elevation may be required to be a minimum of 18 inches or two feet above the high point of the building site. A finished floor elevation may be other than the minimum permitted, provided it is determined by technical data and certified by an Arizona Registered Professional Engineer to be safe from inundation by the 100-year peak runoff event. Finished floor elevations shall be referenced to a known benchmark whenever possible, or to a suitable reference elevation.

Building Site:

The area extending laterally a minimum distance of 10 feet beyond the foundation or support of a building.

The High Point of the Building Site:

The finished floor must be elevated a minimum of 12 inches above the highest point of the natural grade within the building site, unless certified by a civil engineer for a lower elevation.

Temporary Bench Mark (TBM):

A reference point established for use by the inspector during stem/finished floor elevation inspection unless referenced to a Benchmark (BM) on-site with a known certified elevation. Sites using the high point of natural grade in the building site to establish finish floor elevation must reference that point. Site TBMs must not be located in streets and should be located within a reasonable distance of the proposed structure.

Grading On Site:

Any Grading on a site required a Development permit from the Planning & Development Department.

Engineered Grading and Drainage plans may be required for the site work.

Planning & Development Department

ENGINEERED PLAN SUBMITTAL REQUIREMENTS

Please check your plan against the listed items for compliance. The following checklist should be used as a guideline. Additional data may be required based upon complexity of the design and location. Submit the checklist with your revised plan of development.

Cover Sheet

___ 1. Project Name & Address
___ 2. Legal Description
___ 3. Site Location Map
___ 4. Engineer's Name, Address, and Phone Number
___ 5. Tracking Number
___ 6. Bench Mark/On Site Temporary Bench Mark (TBM)
___ 7. General Notes/Legend
___ 8. Arizona Registered Professional Civil Engineer's Seal and Signature

Site Plan Sheet

___ 1. North Direction Arrow & Engineer's Scale
___ 2. Property Lines/Dimensions
___ 3. Building Envelope/Tracts/Easements/Floodplain Boundaries
___ 4. Finished Floor Elevation & Statement, "Finished floors are free from inundation during a 100-year peak run-off event if constructed in accordance with approved plans."
___ 5. Contour Lines/Spot Elevations
___ 6. Drainage Patterns/Arrows/Grade Breaks
___ 7. Washes & Swales
___ 8. Perpendicular Cross Sections Through Site
___ 9. Driveway Location
___10. Culvert Cross Section & Profile
___11. Fences/Block Walls with Type & Location of Drainage Openings
___12. Septic Tank Location
___13. On Site Temporary Benchmark (TBM)
___14. Arizona Registered Professional Civil Engineer's Seal & Signature

Drainage Report

___1. Drainage Area Map (based on best available data)
___ 2. Hydrologic Analysis
___ 3. Culvert Analysis
___ 4. Channel/Wash Hydraulic Analysis
___ 5. Arizona Registered Professional Civil Engineer's Seal & Signature

If you have any questions, please contact _____

DRAINAGE REQUIREMENTS FOR MASTER PLAN
- Drainage Information -

The master plan needs to be signed and sealed by an Arizona Registered Professional Civil Engineer. The following information will need to be provided for the Master Drainage Plan:

1. **Offsite Hydrology**- Need to determine the quantity, the entrance and exit points, and how the flow is to be routed through the site.

2. **Onsite Hydrology-** Need to show how the flows are to be routed to retention basins. Need to determine quantity for pre and post development conditions.

3. **Onsite Retentio**n- Need to retain water for the 100-year, 2-hour storm for the developed site. Determine volume needed and the size and location of basins.

4. **Contours**- Need to show natural and proposed contours or spot elevations on the plans.

5. **Streets**- Need to show the layout of major streets.

6. **Floodplains**- Need to show the delineated floodplain boundaries if the site is within a Federal Emergency Management Agency's (FEMA) special flood hazard area. Will also need to apply for a floodplain use permit with the Flood Control District of Maricopa County. Delineation of floodplains (non-FEMA) for major washes is required.

7. **Erosion Setbacks**– For washes and other watercourse channels an erosion setback will need to be determined, which meets Arizona State Standard 5-96.

8. **Fill out the following Table**:

Miles/Acres of Protected Natural Watercourse [1]		
Miles of Improved Watercourse or Storm Drain [2]		
Acres of Retention or Detention Areas [3]		

[1] Miles/Acres of watercourse that are preserved in a natural state by Open Space
[2] Miles of watercourse that is altered by bank stabilization, channelization, storm drain installation, or grading. Curb and gutter does not qualify as watercourse.
[3] Acres of Retention/Detention to be constructed as drainage infrastructure.

Since complex drainage systems may require more detailed information, a meeting should be arranged with a reviewer from the Planning & Development Plan Review division.

FEES: See Drainage Regulation Fee Schedule.

DRAINAGE REVIEW REQUIREMENTS FOR PRELIMINARY PLAT
- Drainage Information -

A drainage plan and report needs to accompany a preliminary plat submittal. The drainage plan/report needs to be signed and sealed by an Arizona Registered Professional Civil Engineer and should address the following:

1. **Offsite Hydrology**- Need to determine the quantity, the entrance and exit points, and how the flow is to be routed through the site.

2. **Onsite Hydrology**- Need to show how the flows are to be routed to retention basins.

3. **Onsite Retention**- Need to retain water for the 100-year, 2-hour storm for the developed site. Determine volume needed and the size and location of the basins.

4. **Contours**- Need to show natural and proposed contours or spot elevations on the plans.

5. **Layout**- Need to show drainage tracts, easements, building envelopes, and typical lot drainage.

6. **Floodplains**- Need to show the delineated floodplain boundaries if the site is within a Federal Emergency Management Agency's (FEMA) special flood hazard area. Will also need to apply for a Floodplain Use Permit from the Flood Control District of Maricopa County. Delineate all floodplains (non-FEMA) of 50 cfs or greater. All Floodplain delineations must be shown on the preliminary plat.

7. **Erosion Setbacks**– For washes and other watercourse channels an erosion setback will need to be determined, which meets Arizona State Standard 5-96.

8. **Fill out the following Table**:

Miles/Acres of Protected Natural Watercourse [1]		
Miles of Improved Watercourse or Storm Drain [2]		
Acres of Retention or Detention Areas [3]		

[1] Miles/Acres of watercourse that are preserved in a natural state by a drainage tract, drainage easement, or building setbacks.
[2] Miles of watercourse that is altered by bank stabilization, channelization, storm drain installation, or grading. Curb and gutter does not qualify as watercourse.
[3] Acres of Retention/Detention to be constructed as drainage infrastructure.

Since complex drainage systems may require more detailed information, a meeting should be arranged with a reviewer from the Planning & Development Plan Review Department.

FEES: See Drainage Regulation Fee Schedule.

DRAINAGE REQUIREMENTS FOR FINAL PLAT
- Drainage Information -

A final drainage report in conjunction with grading, drainage and paving plans will need to be submitted with the final plat. The final drainage report needs to be signed and sealed by an Arizona Registered Professional Civil Engineer and to include the following:

1. **Offsite Hydrology**- Need to determine the quantity, the entrance and exit points, and how the flow is to be routed through the site.
2. **Onsite Hydrology-** Need to show how the flows are to be routed to retention basins.
3. **Onsite Retention**- Need to retain water for the 100-year, 2-hour storm for the developed site. Determine volume needed and the size and location of basins.
4. **Onsite Hydraulic Calculations**- Need to show hydraulic analysis for any channels, culverts, storm drains, or street drainage.
5. **Cross Sections**- Need to show perpendicular cross-sections through the site indicating property lines, swales, retention areas, finished floors and street details.
6. **Finished Floor Elevation**s- Need to show finished floor elevation and certification note.
7. **Topograph**y- Need to show natural and proposed contour elevations or spot elevations.
8. **Layout**- Need to show drainage tracts, easements, building envelopes, and typical lot drainage.
9. **Access**- Need to show a 100-year all weather access routes throughout the subdivision.
10. **Dry Wells**- If applicable, need to submit a copy of the dry well registration before issuance of a permit.
11. **Floodplains**- Need to show the delineated floodplain boundaries if the site is within a Federal Emergency Management Agency's (FEMA) special flood hazard area. Will also need to apply for a Floodplain Use Permit with the Flood Control District of Maricopa County. Delineate all floodplains (non-FEMA) of 50 cfs or greater. All Floodplain delineations must be shown on the preliminary plat.
12. **Erosion Setbacks**– For washes and other watercourse channels an erosion setback may need to be determined, which meets Arizona State Standard 5-96.
13. **Fill out the following Table**:

Miles/Acres of Protected Natural Watercourse [1]		
Miles of Improved Watercourse or Storm Drain [2]		
Acres of Retention or Detention Areas [3]		

[1] Miles/Acres of watercourse that are preserved in a natural state by a drainage tract, drainage easement, or building setbacks.
[2] Miles of watercourse that is altered by bank stabilization, channelization, storm drain installation, or grading. Curb and gutter does not qualify as watercourse.
[3] Acres of Retention/Detention to be constructed as drainage infrastructure.

Since complex drainage systems may require more detailed information, a meeting should be arranged with a reviewer from the Planning and Development Plan Review Department.

NO FEE: (included in Preliminary Plat Fee.).

DRAINAGE REQUIREMENTS FOR CONCEPT PLAN
- Drainage Information -

The concept plan must have a preliminary drainage report/plan that will show that the site has enough space allocated for drainage features (retention basins, channels, swales, and pipes). The conceptual drainage report needs to be signed and sealed by an Arizona Registered Professional Civil Engineer and should address the following:

1. **Offsite Hydrology-** Need to determine the quantity of the flow, the entrance and exit points, and how the flow is to be routed through the site.

2. **Onsite Hydrology**- Need to show how the flows are to be routed to retention basins.

3. **Onsite Retention**- Need to retain water for the 100-year, 2-hour storm for the developed site. Determine volume needed and the size and location of basins.

4. **Contours**- Need to show natural and proposed contours or spot elevations on the plans.

5. **Floodplains**- Need to show the delineated floodplain boundaries if the site is within a Federal Emergency Management Agency's (FEMA) special flood hazard area. Will also need to apply for a Floodplain Use Permit with the Flood Control District of Maricopa County. Delineate all Floodplains (non-FEMA) of 50 cfs or greater.

6. **Erosion Setbacks**– For washes and other watercourse channels an erosion setback may need to be determined, which meets Arizona State Standard 5-96.

Since complex drainage systems may require more detailed information, a meeting should be arranged with a reviewer from the Planning & Development Department.

FEES: See Drainage Regulation Fee Schedule.

DRAINAGE REQUIREMENTS FOR PRECISE PLAN
- Drainage Information -

A detailed drainage report with respect to hydrology and hydraulics in conjunction with grading, drainage and paving plans will need to be submitted. The final drainage plan needs to be signed and sealed by an Arizona Registered Professional Civil Engineer and should address the following:

1. **Offsite Hydrology** – Need to determine the quantity of the flow, the entrance and exit points, and how the flow is to be routed through the site.
2. **Onsite Hydrology** – Need to show how the flows are to be routed to retention basins.
3. **Onsite Retention** – Need to retain water for the 100-year, 2-hour storm for the developed site. Determine volume needed and the size and location of basins.
4. **Onsite Hydraulic Calculations** – Need to show hydraulic analysis for any channels, culverts, storm drains, or street drainage.
5. **Cross Sections** – Need to show perpendicular cross-sections through the site indicating property lines, swales, retention areas, finished floors, and street details.
6. **Finished Floor Elevations** – Need to show finished floor elevation and certification note.
7. **Topography** – Need to show natural and proposed contour elevations or spot elevations.
8. **Dry Wells** – If applicable, need to submit a copy of the dry well registration before issuance of a permit.
9. **Floodplains** – Need to show the delineated floodplain boundaries if the site is within a Federal Emergency Management Agency's (FEMA) special flood hazard area. Will also need to apply for Floodplain Use Permit with the Flood Control District of Maricopa County. Delineate all floodplains (non-FEMA) of 50 cfs or greater.
10. **Erosion Setbacks** – For washes and other watercourse channels an erosion setback will need to be determined, which meets Arizona State Standard 5-96.
11. **Fill out the following table:**

Miles/Acres of Protected Natural Watercourse[1]		
Miles of Improved Watercourse or Storm Drain[2]		
Acres of Retention or Detention Areas[3]		

[1]Miles/Acres of watercourse that is preserved in a natural state.
[2]Miles of watercourse that is altered by bank stabilization, channelization, storm drain installation, or grading. Curb and gutter does not qualify as watercourse
[3]Acres of Retention/Detention to be constructed as drainage infrastructure.

Since complex drainage systems may require more detailed information, a meeting should be arranged with a reviewer from the Planning & Development Plan Review Department.

FEE: See Drainage Regulation Fee Schedule**.**

DRAINAGE REQUIREMENTS FOR SPECIAL USE
- Drainage Information -

The drainage information required depends on the type of use and the size of the project. For commercial/industrial uses, the requirements for precise plan will need to be submitted. For residential and other uses, the following minimum drainage information will be needed:

1. Show direction of onsite flow on the plan.

2. Show retention calculations, the location, and size of the basin.

3. Show any washes that flow through the site.

4. Show finished floor elevation if buildings are to be built.

5. Show elevation contours or spot elevations on the site plan.

6. Fill out the following Table:

Miles/Acres of Protected Natural Watercourse [1]		
Miles of Improved Watercourse or Storm Drain [2]		
Acres of Retention or Detention Areas [3]		

1 Miles/Acres of watercourse that are preserved in a natural state.
2 Miles of watercourse that is altered by bank stabilization, channelization, storm drain installation, or grading. Curb and gutter does not qualify as watercourse.
3 Acres of Retention/Detention to be constructed as drainage infrastructure.

Since complex drainage Systems may require more detailed information, a meeting should be arranged with a reviewer from the Planning & Development Plan Review department.

FEE: See Drainage Regulation Fee Schedule

FEE SCHEDULE
- Drainage Regulations -

The following fees shall be charged for the processing of plan reviews, drainage clearances, appeals, drainage variances, and performance bonds with no provision for refund. For simultaneous review (as example, a submittal for an RUPD and Preliminary Plat), the higher single fee will be charged.

PLAN REVIEW
Area Master Plans (1 square mile) $3,100
+$500/sq. mile; Max (18 sq. miles) $20,000

Planning and Development

CASE REVIEW (Zoning, Board of Adjustment, and Compliance Review) $150

DEVELOPMENT REVIEW (Abandoned Easements, Adm. Approvals, and Amendments) $300
+$50/Acre; Max $8,000
With Public Meeting ..... +$75
With Plans/Drainage Report ..... +$175

Conceptual Plans ..... $500 + $100/Acre
Max (45 Acres) $5,000

Subdivisions

IUPD/RUPD/CUPD, Preliminary & Final Plats (Based on 28 Acre Subdivisions) ..... $1,000 + $100/Acre
Max (Based on 140/Acre) $15,000

Precise Plan of Development

Commercial/Industrial, Multi-family, Special Uses, Schools, Golf Courses,
Municipal, Special Districts, Churches, and all other precise plans..... $1,000 + $200/Acre Max
(Based on 45 Acres) $10,000
With TAC Hearing – total and additional ..... +$75
With Public Meetings – total and additional ..... +$75

Site/Drainage Plans

*** Subdivision lots, Custom lots, Rural Single Family $400**
With Eng. Grading & Drainage Plan/Hydrology Report ..... +$130
With Requested Site Inspection by Supervisor ..... +$150
Max $680

* Non-FCD approved subdivisions or non-engineered subdivisions ..... +$50/Acre
Max $5,000

Other Site Plans

Drainage Clearances and other plans **NOT** requiring:
A drainage report/plan $45
With site investigation $110
Total $155

FEE SCHEDULE
- Drainage Regulations -

Approved Subdivision Lots
Drainage Clearance for:
1 – 5 lots $45/lot
6 – 10 lots $35/lot
11 or more lots $25/lot

FCD approved subdivisions with certified pad elevations on file $20/ea
FCD approved subdivisions with certified pad elevations and final grading as-builts on file $15/ea

Amended Drainage Reports to Approved Plans, Plan Revisions, and Additions $200
+$50/lot; Max $5,000

OTHER FEES

Appeals/Variances (Drainage Review Board and Board of Supervisors) $450
Appeals sent to Drainage Administrator
SFR (Single Family Residence) $100
All others $200

Continuance of Hearing (Applicant's Request) $50
When new posting required $200

Special Inspections

Re-inspection fee (site not ready, no show, etc.) $75
Additional inspections (due to applicant) $150
On-site consultation (citizen request) $150
Set reference point for FFE $50

Retention calculations for small site with less than 2 gross acres $200

Pipe culverts for small washes $75/hr
Max $1,500

Drainage reports for floor elevations of site with 5 acres or less of watershed $500

Fees will be doubled for work done without benefit of permit.
Regulation per Copy: $5

Performance Bond: 100% cost of required improvement or cost to abate violation, or 50% of value at risk, whichever is higher.

For precise plans of development, all fees include a minimum of two (2) plan reviews and three (3) compliance inspections.

For site/drainage plans, the fees include three (3) inspections: a site, stem, and final inspection.
All other site plans will have site investigation fees on a site-specific basis.